

MARSH MASTER®

ANCHOR MASTER®



[www.marshmaster.com](http://www.marshmaster.com)

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**COAST MACHINERY, LLC**  
10012 UMBEHAGEN LANE  
BATON ROUGE, LA 70817

225.753.1323

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# ANCHOR MASTER®

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## *GENERAL DESCRIPTION*

The **Anchor Master** is a machine specifically designed to install screw type anchors for utility guy wires. It is capable of handling anchors up to seven feet long and will develop 5,500-foot pounds of installation torque. The standard unit is equipped with a 1-1/2 inch square drive socket for square head anchors. Other drive adaptor configurations are available upon request.

Features which make the **Anchor Master** unique are:

1. Anchors can easily be installed at angles by the hydraulically controlled tilt mechanism.
2. Simple drive mechanism which provides rotary motion to turn the anchor, plus linear motion to push or pull the anchor while turning it.
3. Bolt-on attachment allows the Anchor Master to be easily removed for personnel transport.

## *LOAD CAPACITY*

Maximum load capacity represented by the placards on the Marsh Master, is for a bare machine with a full capacity of diesel and hydraulic oil, but with no materials, attachments, or personnel aboard. There is a placard located on the top tube in the cab of the machine as well as the data plate on the console. The weight of the Anchor Master must be subtracted from this load limit to determine any additional weight that can be added to the machine.

Anchor Master weight: 980 lb.

**If there are any questions regarding load limits, contact Coast Machinery, LLC.**

# ANCHOR MASTER CONTROLS

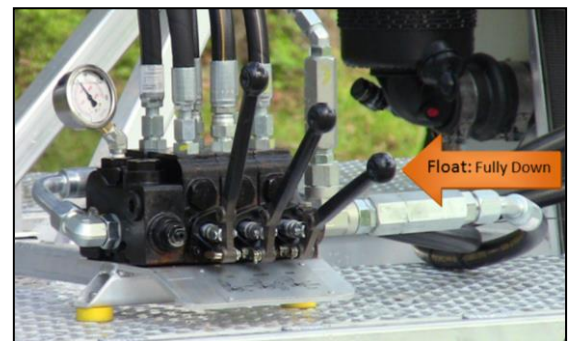
**TILT** Adjust the angle of the ram tube between horizontal and vertical. Pull the tilt lever toward you to tilt the ram head up. Push the tilt lever away from you to tilt the ram head down. The tilt speed can be controlled by feathering the valve handle (slight movement).



**ROTATE** Controls the anchor torque drive forward or reverse. Anchors can be screwed in or out. Pull the handle toward you for clockwise (to install an anchor). Pulling fully towards you will put the handle into a detent position, allowing rotation to continue hands-free. Push the handle away from you for reverse (to remove an anchor).



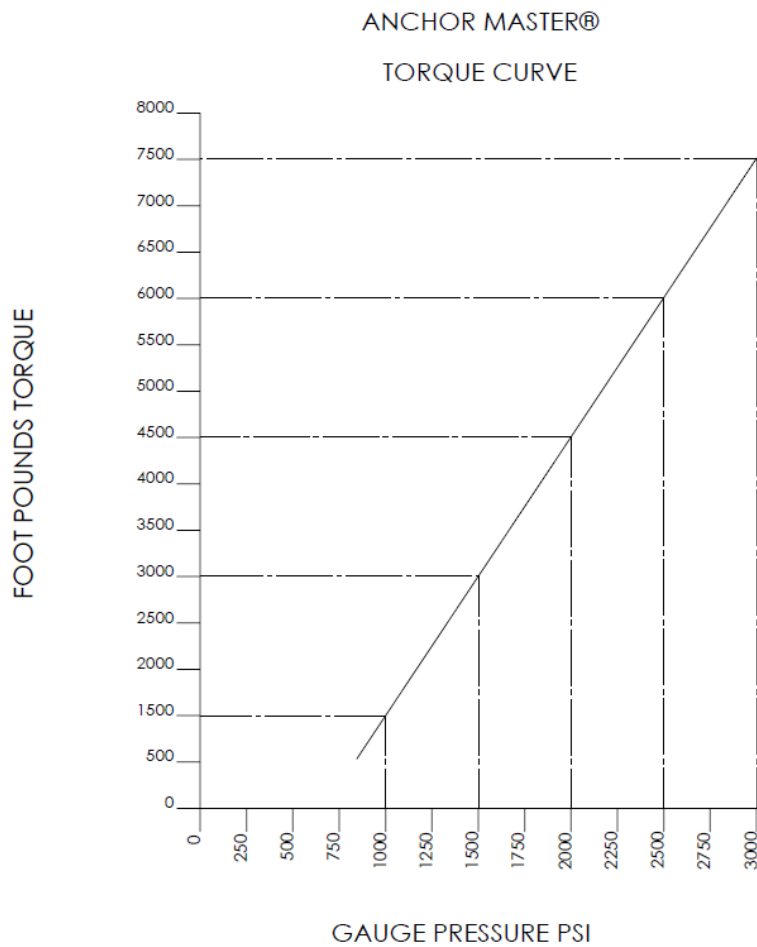
**RAM** Controls the motion of the ram tube up or down. Pull the valve handle toward you to move the ram down. Push the handle away from you to move the ram up. The valve will spring center to neutral. Pulling the valve handle fully toward you until it stops allows the ram tube to "Float". The handle will detent in the "Float" position allowing the ram to follow the anchor down with hands-free operation. When an anchor begins to screw in or out of the ground, the ram valve must be in the "Float" position. This allows the ram to follow the anchor in or out. This is very important. **THE RAM VALVE MUST BE IN THE "FLOAT" POSITION WHEN SCREWING THE ANCHOR IN OR OUT.** Failure to use the "Float" feature could result in damage to the ram tube, drive mechanism or mounting frame.



**GAUGE** Reads the hydraulic pressure on the anchor drive head. As the anchor goes down, the pressure will rise. This depends on the consistency and type of earth. Hydraulic pressure is directly proportional to anchor install torque. See Figure 6 to convert gauge pressure to anchor install torque.



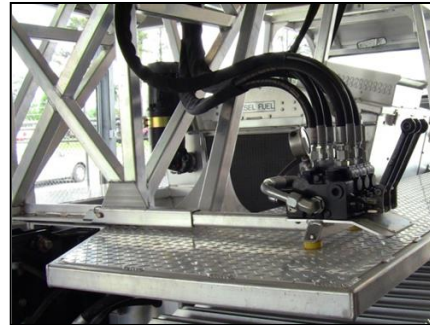
FIGURE 6



NOTE: 1. WITH PENGU RS-7X TORQUE HEAD  
2. BASED ON 500 PSI SYSTEM PRESSURE DROP @ 15 GPM

**Control Valve Mount** The control valve mount is extendable.

- The collapsed position is for travelling.
- The extended position is for installing anchors.



**SIDE TILT** To install an anchor that is not aligned with the buggy, the Anchor Master is equipped with a side tilt feature. Push at the base of the ram to tilt. There is 25° of travel in either direction. The closer the end of the ram is to the ground, the easier it will be to tilt.



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# OPERATING PROCEDURES

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- Connect supply and return hoses to high-flow quick connects.
- Pull tilt lever to raise ram to desired angle for anchor installation.
- Pull ram lever to lower ram onto anchor.
- Pull rotation lever to line up square drive socket with square lug on anchor.
  - Lightly greasing the square drive will allow for easier connection and disconnection.
- When lined up, pull ram lever very slightly to ease ram down causing socket to go over anchor head. Ease ram up and down to line-up drive pin hole.
- Insert drive pin and safety clip.
- Pull ram lever to put pressure on anchor, and at the same time pull rotate lever to start screwing anchor into the ground.
  - It may be necessary to dig a shallow hole to get the anchor started in the proper position. Otherwise, the anchor tends to roll as you begin turning it. This is particularly true on hard ground.
- When anchor starts screwing into the ground, pull ram lever to the float position. **It must be in the float position while the anchor screws into the ground.**
- Disconnect drive head from anchor and repeat process using extensions if required.
- To return unit to the travel position, tilt ram to 45 degrees.
- Adjust ram up or down to allow drive head to clear U-notch in cradle.
- Lower ram onto the cradle.
  - ❖ Always lower ram onto the cradle before moving the Marsh Master.
  - ❖ Do not use ram as a lifting device.
  - ❖ It is critical that the ram tube is kept free of any grease, oil, paint or other substances of this type.
  - ❖ A moderate layer of rust is not a problem; it will actually aid the ram tube by providing more friction.



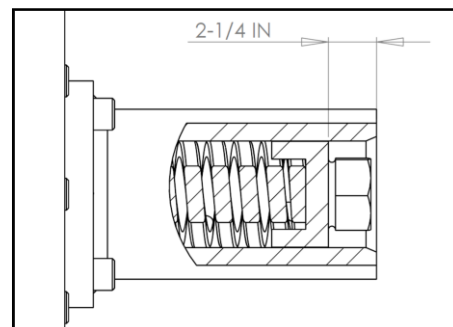
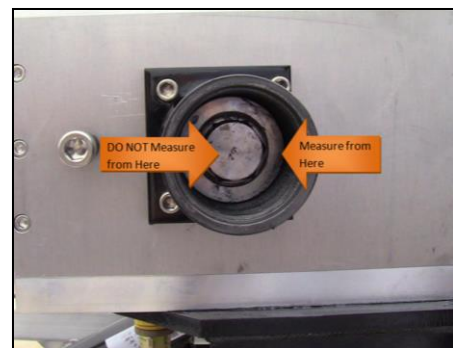
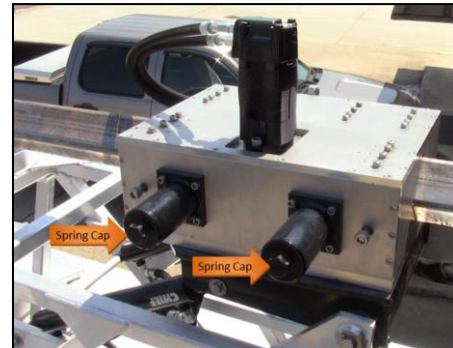
**When raising ram, make sure there are no electrical wires or obstructions overhead.**

# ANCHOR MASTER

## ADJUSTMENTS

### SPRING NUT ADJUSTMENT

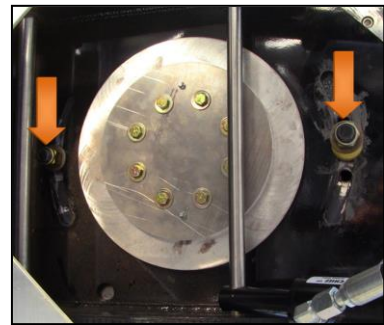
1. Remove spring caps.
2. Measure the distance from the end of the spring housing to the top of the spring nut body. (not the top of the hex nut)
3. Adjust spring nut to obtain 2-1/4 inch depth.
  - Turning the nut in will increase the spring pressure, and the driving force, slip pressure, between the ram and the drive rollers.
  - Adequate ram force is needed to allow the anchor to start screwing into the ground, and to pull the drive tool off the anchor head.
4. Put the spring caps back on.



## ***RAM GUIDE BEARING ADJUSTMENTS***

The ram square tube is guided by six sets of bearings. There is one set at each corner, and two sets in the center directly opposite the drive rollers. These bearings guide the ram as it goes up and down, and also carry the reaction torque on the tube. The loads on these bearings can be very high. Proper adjustment and attention to these bearings is important. After initial run in and as wear occurs, it may be necessary to adjust the play in the bearing assemblies.

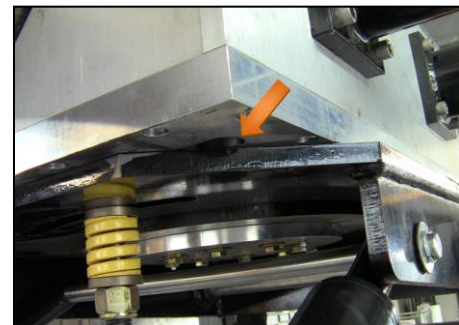
1. Position the ram tube slightly above horizontal, where it will just clear the U-notch in the carrying cradle.
2. Remove the spring caps and loosen the spring nuts until all pressure is off the drive rollers. (see spring nut adjustment)
3. Remove the two studs under the tilt plate.



4. Loosen the 16 bolts on the slotted bearing assemblies.



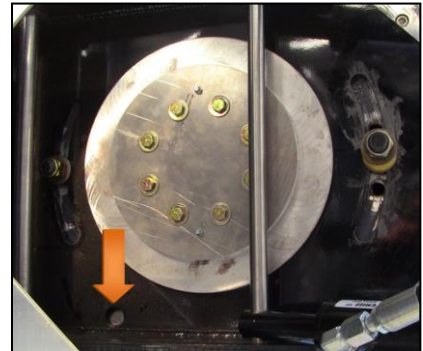
- Eight of the 16 bolts are located on the bottom of the drive box.



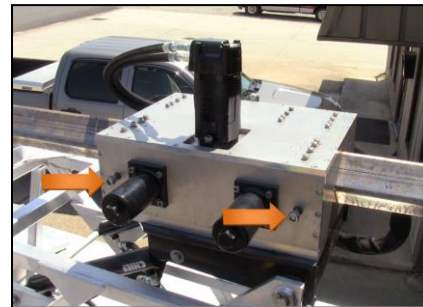
- You will have to use the side tilt feature to be able to access all of the bolts.



- There is a hole in the tilt plate for accessing one of the bolts at the rear of the buggy.



5. With the 16 bolts loosened, tighten the two adjustment bolts until the ram is held firmly between the bearings on each end.
6. Retighten the 16 bolts to 45 ft.-lb.
7. By hand, move the ram back and forth. It should roll freely in the guide bearings and have no play.
8. Readjust the spring nuts, and reinstall the two studs.



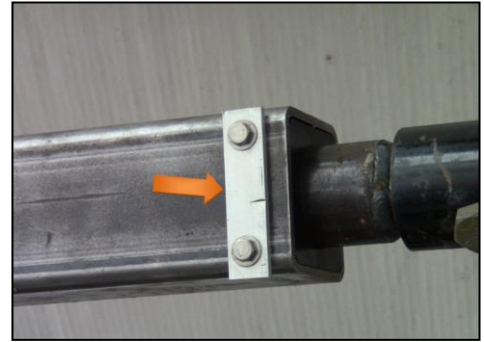
### ***REMOVAL/INSTALLATION OF 4" SQUARE RAM TUBE***

The 4-inch square ram tube is guided and driven on two opposing corners. These two corners are subject to wear. If the wear becomes significant, the ram tube can be rotated 90° in the drive box. This rotation puts new, unused corners of the tube in the drive and guide position. This greatly increases the usable life of the tube.

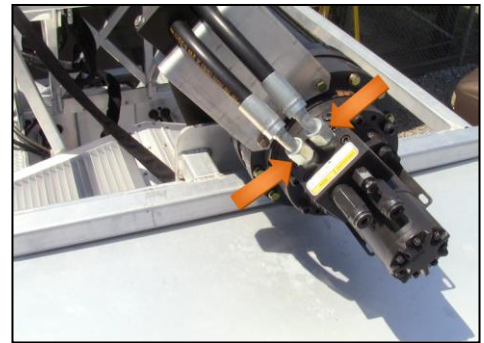
1. Position the ram tube slightly above horizontal, where it will just clear the U-notch in the carrying cradle.
2. Remove the spring caps and loosen the spring nuts until all pressure is off the drive rollers.



3. Remove the four bolts from the two stops at the end of the ram tube.



4. Disconnect the two hoses from the hydraulic motor on the torque head.
  - Mark the two hoses to aid in reassembly.
  - Plug the two hoses and cap the fittings.



5. Slide the tube out and rotate it 90°, or replace if necessary.



**WARNING!**  
SERIOUS INJURY CAN OCCUR!

The ram tube is very heavy, and should be handled with care.

6. Reassemble, reversing the previous procedure, and follow the *Spring Nut Adjustment* and *Ram Guide Bearing Adjustment* procedure.